

Serial No.: 10/601,750

Amendments to the Claims

This listing of claims will replace all prior versions and listings of the claims in the application:

1. (Currently amended) An apparatus comprising:
perforation means for perforating a wellbore wall, said perforation means comprising a fiber optic cable having a laser input end and a laser output end; a laser source operably connected to said laser input end; a laser head connected to said laser output end, said laser head comprising laser control means for controlling at least one laser beam characteristic; laser head control means for controlling a motion and a location of said laser head operably connected to said fiber optic cable; and a protective housing enclosing said laser head.
2. (Original) An apparatus in accordance with Claim 1, wherein said protective housing is transparent.
3. (Original) An apparatus in accordance with Claim 1, wherein a thermally protective shielding is disposed around said fiber optic cable.

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4. (Original) An apparatus in accordance with Claim 1, wherein said laser head control means comprises a plurality of roller elements operably connected to said fiber optic cable.

5. (Original) An apparatus in accordance with Claim 4, wherein said roller elements are selected from the group consisting of spheres, wheels and combinations thereof.

6. (Original) An apparatus in accordance with Claim 1, wherein said laser control means comprises at least one of directing means for directing a laser beam transmitted from said laser output end, focusing means for focusing said laser beam and splitting means for splitting said laser beam.

7. (Original) An apparatus in accordance with Claim 5, wherein said roller elements are connected to said fiber optic cable by extension means for extending said roller elements outward from said fiber optic cable.

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8. (Original) An apparatus in accordance with Claim 6, wherein said directing means comprises at least one adjustable reflector suitable for reflecting said laser beam outwardly from said laser head.

9. (Original) An apparatus in accordance with Claim 8, wherein said at least one reflector is selected from the group consisting of mirrors, crystal reflectors and combinations thereof.

10. (Original) An apparatus in accordance with Claim 1 further comprising a plurality of nozzles disposed around an exterior of said laser head.

11. (Original) An apparatus in accordance with Claim 10, wherein at least a portion of said plurality of nozzles are purge nozzles connected to a purge fluid supply and adapted to deliver a purge fluid proximate said exterior of said laser head.

12. (Original) An apparatus in accordance with Claim 10, wherein at least a portion of said plurality of nozzles are vacuum nozzles connected to a

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vacuum source and adapted to remove gaseous fluids from around said exterior of said laser head.

13. (Original) An apparatus in accordance with Claim 1, wherein said laser head control means comprises a plurality of protective couplings disposed around said fiber optic cable.

14. (Original) An apparatus in accordance with Claim 13, wherein a flexible outer casing is disposed around said plurality of protective couplings.

15. (Original) An apparatus in accordance with Claim 14, wherein said laser head control means further comprises a plurality of roller elements connected to said flexible outer casing.